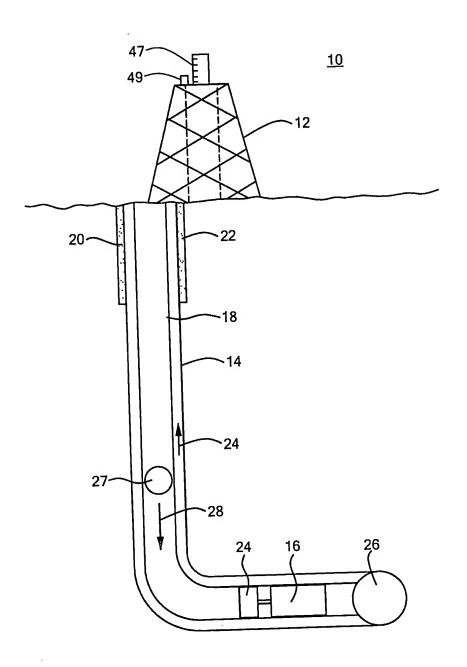


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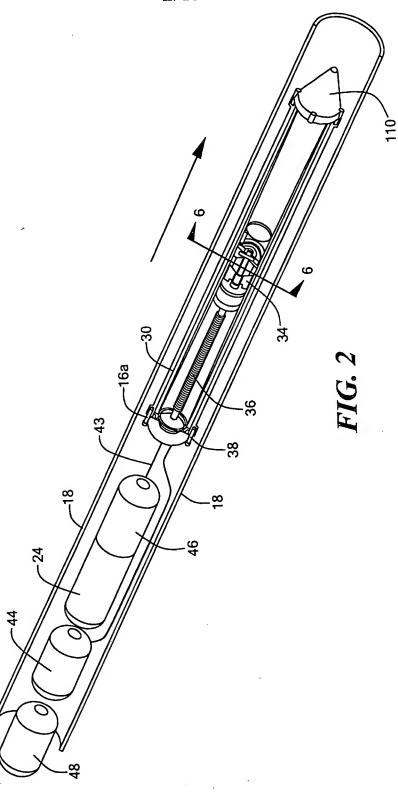
**FIG.** 1

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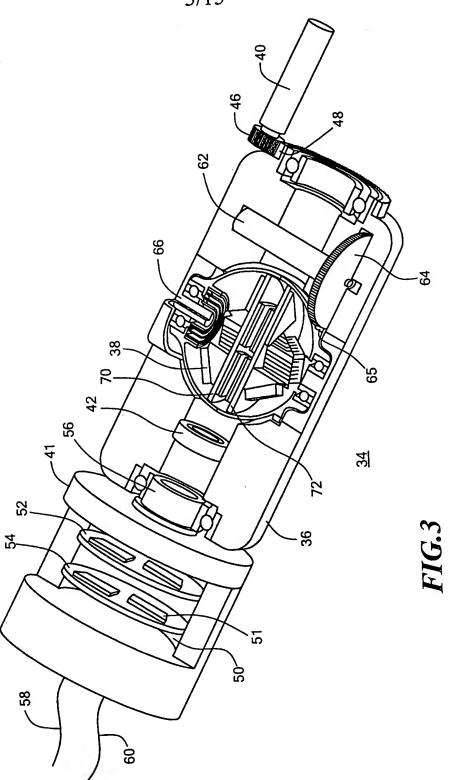
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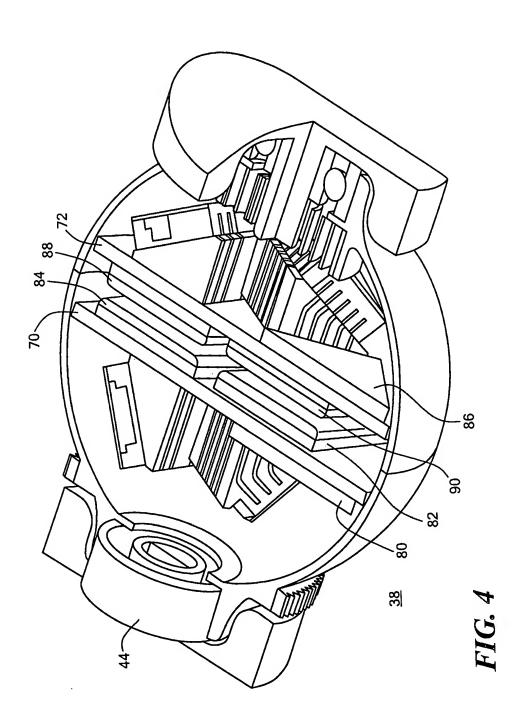


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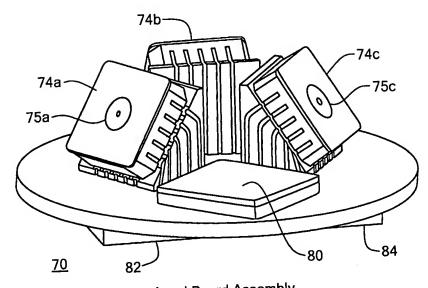
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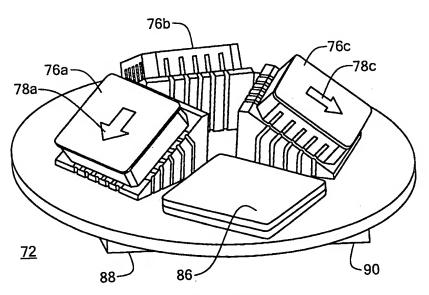
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Accel Board Assembly





**Gyro Board Assembly** 

FIG. 5B

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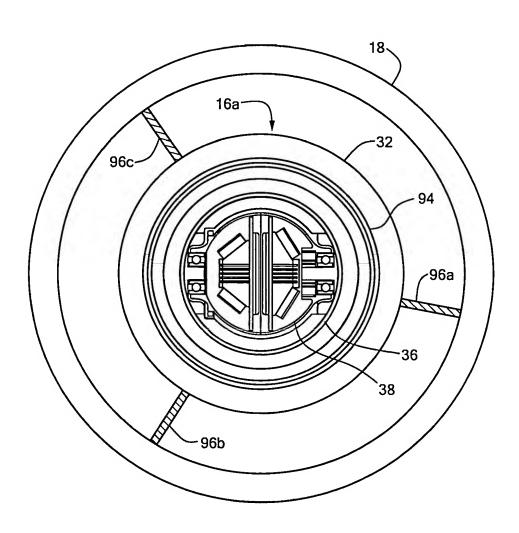


FIG. 6

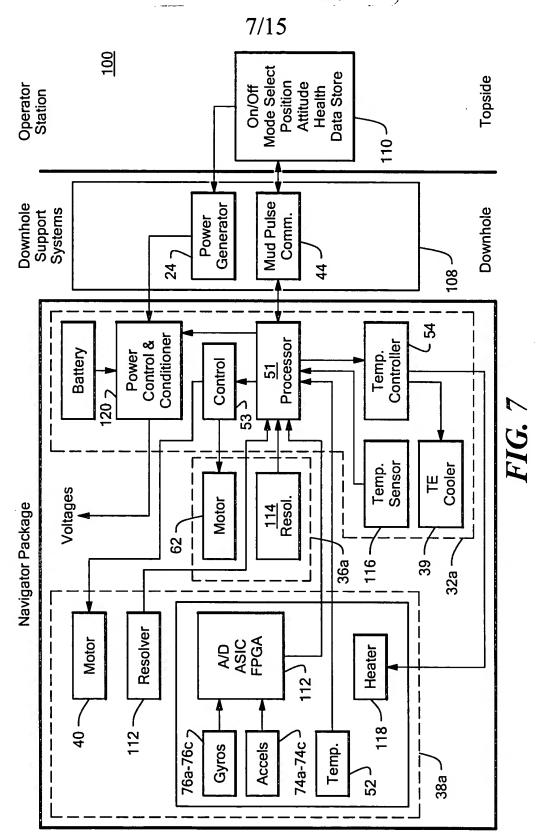
Applicants:

Title:

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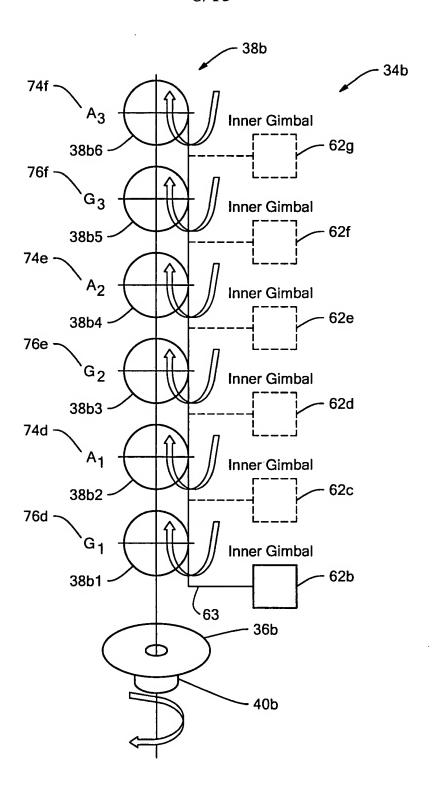
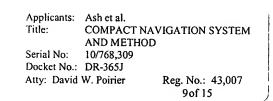
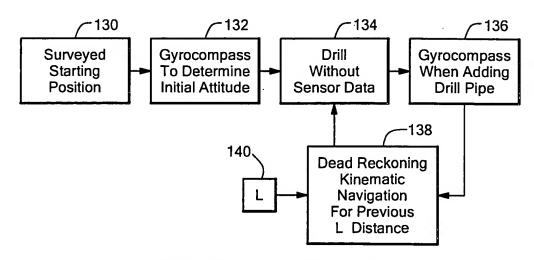


FIG. 8



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# DEAD RECKONING FOR KINEMATIC NAVIGATION WHILE DRILLING BETWEEN GYROCOMPASSES

#### FIG. 9

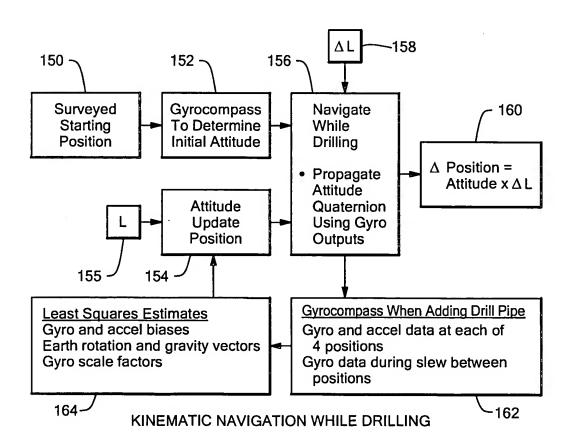


FIG. 10

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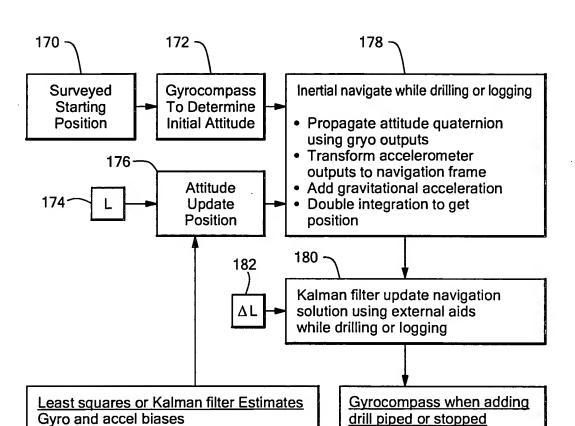
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INERTIAL NAVIGATION WHILE DRILLING OR LOGGING

during logging

Gyro and accel data at each of 4 positions Gyro data during slew

between positions

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Earth rotation and gravity vectors

Gyro scale factors

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FIG. 11

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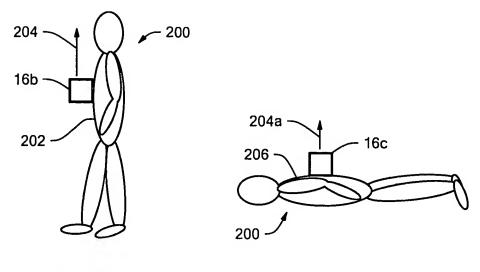
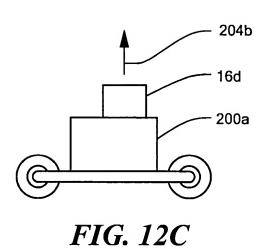


FIG. 12A

FIG. 12B



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Title: COM

COMPACT NAVIGATION SYSTEM

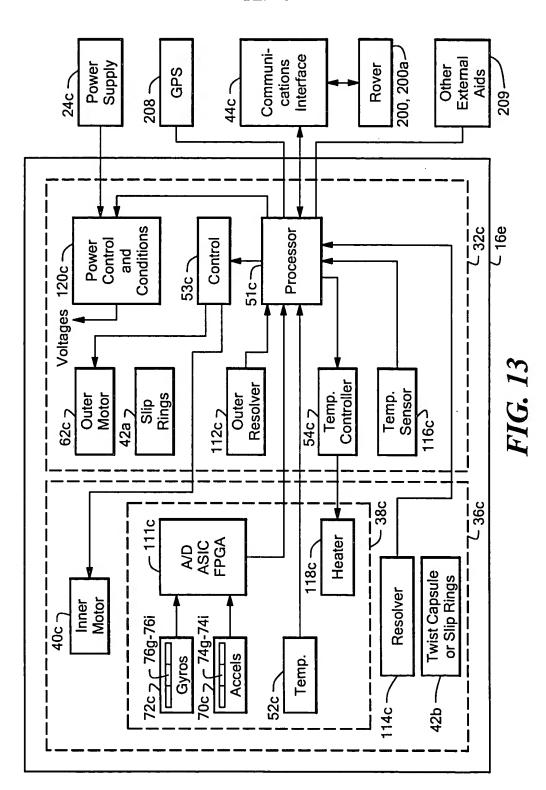
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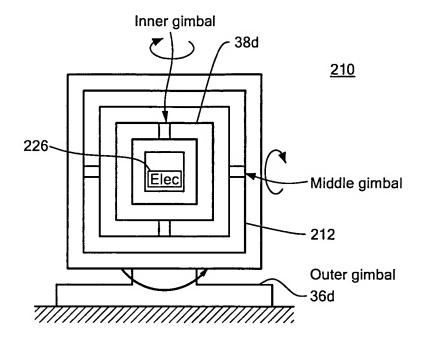
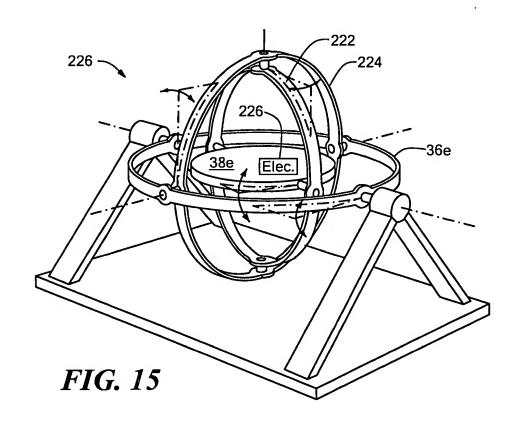


FIG. 14



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Title:

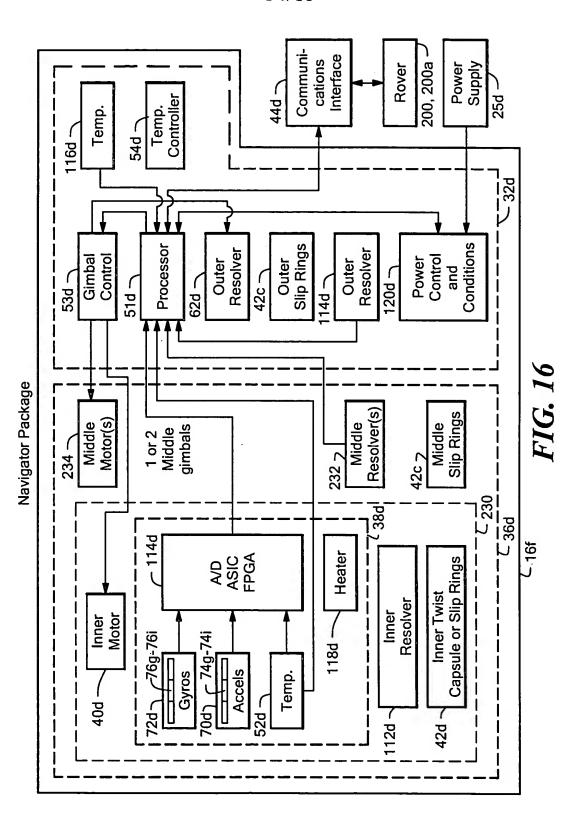
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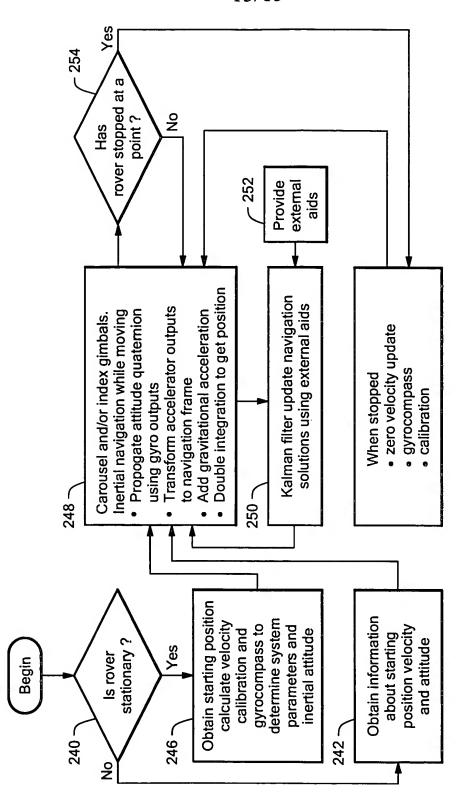


FIG. 17